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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 20031009

Application Number: 09/381,631
Filing Date: March 01, 2000
Appellant(s): JEANVOINE ET AL.

Norman F. Oblon, Harris S. Pitlick
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed July 9, 2003.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The rejection of claims 38-46, 50, 56, 77, 78, 98, 100-106, 115 and 116 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5,616,626	Floyd et al	4-1997
3,260,587	Dolf et al	7-1966

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 38-40, 42-46, 50, 56, 77, 78, 98, 100-106, 115 and 116 are rejected under 35 U.S.C. 103(a) as being unpatentable over Floyd et al (US 5615626) in view of Dolf et al (US 3260587).

Features of applicant's claims can be found in the abstract, figures, col. 2, line 26 to col. 4, line 10; col. 5, line 34 to col. 6, line 60; col. 7, lines 39-48; col. 8, lines 6-38; col. 10, lines 20-35 and the example. Specifically, oxides, incinerator ash, slag, swarf and mineral feed streams were disclosed at col. 3, lines 32-61; col. 4, lines 3-6; col. 6, lines 3-10, 18-24, 55-56; col. 12, lines 16-23 (note "smelting") and 40-42; and col. 13, lines 1-16. Submerged combustion with a

lance mounted adjustably in the roof of the reactor in col. 3, lines 1-3; col. 5, lines 34-68. The recitation of "municipal waste" in Floyd et al is considered to include various "glazings".

Floyd et al does not teach glass manufacturing processes per se. Floyd et al produced materials used in landfills or as building materials which were known to contain glassy phases (see Floyd et al, col. 6, lines 50-60). Dolf et al taught submerged combustion melting to process cullet and glass batch into glass products (see col. 1, lines 35-49). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the process of Floyd et al to produce any form of glass product because Dolf et al taught that the same melting techniques as Floyd et al were known for processing mostly glass materials such as cullet. A person of ordinary skill in the art would have expected that the proportion of glass produced in such a process depended directly from the proportion of glass charged into the process.

Floyd et al and Dolf et al do not expressly teach forming sheet, bottles, fibers, foamy glass or electronic parts. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to make any one of various known forms of glass products using the combined teachings of Floyd et al and Dolf et al because the intended use of the molten glass does not result in a manipulative difference as compared to the combined teachings of Floyd et al and Dolf et al to make molten glass.

(11) Response to Argument

In response to the argument that Floyd et al discloses combustion with no melting, the examiner disagrees. The example of Floyd et al demonstrates that a feed stream containing mostly oxides in the form of steel swarf and incinerator ash was heated to 1230°C. Note also

that the total oxide proportion of the waste feed (col. 13, lines 5-16) was 74%. The oxides in the waste feed stream were well known in the art to be glass formers (see also, col. 4, lines 3-6). These facts, as well as the numerous references to slag and flux, clearly indicate a glass melting process. It should also be noted that the applicant does not claim or disclose a proportion of glass in the feed stream or product of the invention. Finally, it should be noted that none of applicant's claims are rejected over Floyd et al alone. Dolf et al provided literal support for the melting of glass cullet and batch as set forth in the rejection.

In response to the argument that one would not look to Floyd et al to solve a problem regarding recycling or recovering vitrifiable materials, the examiner disagrees. The applicant incorrectly asserts that Floyd et al contemplates only small amounts of glass material. As stated in the rejection, vitrifiable materials would include the slag which is melted by Floyd et al. Floyd et al even taught that slag produced in the disclosed method could be recycled and remelted in the process. Finally, it should be noted that none of applicant's claims are rejected over Floyd et al alone. Dolf et al provided literal support for the melting of glass as set forth in the rejection.

In response to the argument that Floyd et al and Dolf et al were not combinable because Floyd et al did not disclose a melting process, the examiner disagrees. For reasons set forth above, it is the position of the examiner that Floyd et al clearly disclosed a melting process. Applicant has also stated in page 6, line 10 of the appeal brief that the final slag has "a very small volume compared to the total mass of waste treated (column 8, lines 42-44)." The cited passage of Floyd et al does not use applicant's words which appear to be embellished. Floyd et al stated "Relative to waste treated, and also relative to the ash residue obtained with the existing

processes, the volume of slag is able to be small. Thus, there is a substantial benefit obtainable in terms of volume reduction achieved by the process." Floyd et al does not state that the volume is "very small" compared to the total volume of waste treated, nor does Floyd et al state that the volume reduction is due solely to combustion. The applicant also relies on figure 1 of Floyd et al to assert that the treated mass is "very porous", but the figures cannot be used in such a way.

In response to the argument that Dolf et al could not have taught anything about Floyd et al's process because it was thirty years older than Floyd et al, the examiner disagrees. If anything, the age of Dolf et al established that submerged combustion in glass melting was very well known in the art long before the invention of Floyd et al. Therefore, a person of ordinary skill in the art may not have needed the disclosure of Dolf et al in front of them to expect the process of Floyd et al to melt or recycle glass cullet successfully.

In response to the argument that Floyd et al and Dolf et al both fail to teach burners passing through the sides, floor or roof of the melting chamber, the applicant is directed to the figures of Floyd et al illustrating a roof-mounted burner (lance) and the figures of Dolf et al illustrating floor and side mounted burners (see also Dolf et al: col. 4, lines 35-46).

In response to the argument that neither Floyd et al nor Dolf et al disclose convective stirring, the applicant is directed to Floyd et al: col. 3, lines 1-3; col. 5, lines 34-38 and 51-55; and col. 10, lines 20-35 in which turbulence and convective stirring was disclosed. In Dolf et al: col. 3, lines 39-41 disclosed such stirring.

In response to the argument that Floyd et al and Dolf et al fail to teach adjustment of the height of the vitrifiable materials and height of the development of combustion gases, the

applicant is directed to col. 6, lines 44-48 and col. 9, lines 12-19 of Floyd et al and also col. 3, lines 22-32 wherein the roof-mounted lance was disclosed to be raised and lowered and the level of molten slag was disclosed to be controlled in batch, continuous and semi-continuous melting campaigns.

In response to the argument that Floyd et al and Dolf et al fail to teach a preceding step of preheating the vitrifiable materials to at most 900°C, the examiner notes that a significant proportion of the feed stream of Floyd et al was incinerator ash or steel swarf (see example) and in some cases, recycled slag (see col. 6, lines 53-56). An immediately preceding incineration or steel refining process would have provided pre heated vitrifiable materials. It would have been obvious to provide the pre heated materials at 900°C or lower since the incineration of organic matter would likely have taken place well below 900°C and the incinerator ash would have to be rushed from the incineration to the melting stage to prevent it from cooling excessively.

In response to the argument that Floyd et al and Dolf et al fail to teach melting at 1400°C at most, the applicant is directed to the disclosed melting range in Floyd et al of 1100 to 1400°C (col. 3, line 36).

In response to the argument that Floyd et al and Dolf et al fail to teach introducing vitrifiable materials below the level of the mass of materials, applicant is directed to Floyd et al: col. 3, lines 30-33; col. 10, lines 27-29 and figure 1 as well as Dolf et al's figure 1, reference number 7 and 3, lines 22-32 wherein vitrifiable materials are introduced below the surface of the molten bath.

In response to the argument that Floyd et al and Dolf et al fail to teach plastic and glass or metal and glass glazings, it is the position of the examiner that the claimed glazings can be

interpreted broadly to read on any glass objects or fragments with metal or plastic coatings. A person of ordinary skill in the art would have expected the "municipal waste" and "industrial waste" described by Floyd et al to contain plastic and/or metal coated glass. Moreover, at the temperatures claimed, the initial form of the feed stream is irrelevant because plastic and metal coatings would quickly oxidize and the remaining glass and oxide material would melt into the molten bath.

In response to the argument that Floyd et al and Dolf et al fail to teach products or additional glass manufacturing steps, the applicant is directed to Floyd et al, col. 6, lines 56-60 and col. 13, lines 17-22 wherein slag was granulated to provide building materials.

In response to the argument that Floyd et al and Dolf et al fail to teach flat, fiber, "electronic", "foamy" or bottle glass products, it is the position of the examiner, as stated in the rejection, that any of the claimed product forms would have been obvious. The argument that Floyd et al does not teach foamy glass is not well taken in light of applicant's earlier argument in page 6, lines 11-14 of the appeal brief stating that Floyd et al did not teach glass manufacture because figure 1 showed a "very porous" treated mass. The claimed density of 0.5 to 2 g/cm^3 would have been obvious because it was not shown to be a critical range.

In response to the argument that Floyd et al and Dolf et al fail to teach a flat product with a solar-protection or fire-resistance function, it is the position of the examiner that future use or properties of the product do not change the manipulative steps of the process of the invention. Furthermore, it would have been obvious to produce a product with a residual blue color in light of the description of the waste feed disclosed by Floyd et al. Note that iron and manganese in

small amounts were known in the art to impart a blue color to glass (see Floyd et al, col. 2, lines 32-40).

In summary, the broadest possible interpretation of the appealed claims allows for those claims to read on the disclosures of Floyd et al. The applicant has mischaracterized Floyd et al by arguing that its disclosure is limited to combustion or incineration methods. This is apparently because Floyd et al did not literally state that glass was melted or formed. As outlined above, a person of ordinary skill in the art would have recognized the Floyd et al disclosure as being a glass melting and glass forming process in the sense that slag is recognized as a glass-based waste material useful in a comminuted solid form. For the purpose of completeness, Floyd et al has been combined with Dolf et al to show that such submerged combustion techniques were known to be used with cullet and glass batch feed materials (a more specific teaching of "glass" than "municipal waste" or "industrial waste") in the absence of combustible materials. Thus, a person of ordinary skill in the art would have known to incorporate glass cullet and/or batch into the feed stream of Floyd et al. The proportion of glass content in the final product would have depended directly from the proportion of glass or glass forming content in the feed stream. From that point, any of an infinite number of known glass forms would be expected by the person of ordinary skill in the art.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Sean E Vincent
Primary Examiner
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S Vincent
October 16, 2003

Conferees

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